

WHAT IS CLAIMED IS:

1. In a wireless communication system in which a first base station transmits data to a plurality of mobile stations through one communication channel and transmits control information of the communication channel via at least one control channel, a method of transmitting control information of downlink shared channel comprising the step of:

transmitting the control information of the downlink shared channel of the first base station to the mobile station by a second base station, if the mobile station and the second base station are under communication, and the second base station transmits data to a plurality of mobile stations via it's own downlink shared channel and transmits the control information of the downlink shared channel of the second base station via a control channel.

2. A method of claim 1 wherein the control information of the downlink shared channel of the first base station is delivered from the first base station to the second base station.

3. A method of claim 2 wherein the delivery of the control information is conducted between the first RNC that controls the first base station and the second RNC that controls the second base station.

4. A method of claim 3 wherein the first RNC transmits the control information to the second RNC using a control frame of a user plane.

5. A method of claim 3, wherein the first RNC transmits the control information to the first base station using the control frame of the user plane.

6. A method of claim 3, wherein the first RNC transmits the control information to the second RNC using the control message of the control plane.

7. A method of claim 3, wherein the first RNC transmits the control information to the first base station using the control message of the control plane.

8. A method of claim 1, wherein if the first base station is a primary base station, the transmission power of a channel including the control information is different according to the operation status of the SSDT of the mobile station.

9. A method of claim 1, wherein if SSDT is not in an operation mode in the mobile station, then the first base station is designated as a non-primary base station.

10. A method of claim 1, wherein if the first base station is designated as a non-primary base station, then the channel including the control information is transmitted by increasing the transmission power up to a predetermined level.

11. A method of claim 1, wherein the transmission power of a channel including the control information is adjusted based on a TPC command initiated from the transmission power of the communication channel in the first base station.

12. In a wireless communication system in which a first base station transmits data to a plurality of mobile stations through one communication channel and transmits control information of the communication channel via at least one control channel, a method of transmitting control information of downlink shared channel to a mobile station comprising the step of: increasing the transmission power of the channel including the control information that the first base station transmits, if the mobile station and a second base station are under communication, and the second base station does not transmit the control information of the downlink shared channel of the first base station to the mobile station.

13. A method of claim 12 wherein, the level of increasing the transmission power is predetermined.

14. A method of claim 12 wherein, if the second base station is one of the active base station for handover, the increase of transmission power depends on a ratio of the number of the active base station that does not transmit the control information to the number of the whole active base

station.

15. A method of claim 12 wherein the control information is transmitted from the first base station to the second base station.

16. A method of claim 13 wherein the transmission of the control information is conducted between the first RNC that controls the first base station and the second RNC that controls the second base station.

17. A method of claim 15 wherein the first RNC decides the transmission status of the control information and transmits the control information to the first base station.

18. A method of claim 12 wherein, if the second base station is one of the active base stations for handover, then the communication is conducted between one of the mobile stations and the third base station through the control channel, and when the third base station transmits the control information of the communication channel of the first base station to the mobile station, the transmission power of the channel including the control information transmitted by the third base station is increased up to a predetermined level.

19. A method of claim 17 wherein the increase of the transmission power depends on a ratio of the number of the base station that transmits

the control information to the number of the whole active base station.

20. A method for controlling power of TFCI field for DSCH in case DSCH-associated DCH exists in a soft handover situation in a mobile communication system including SRNC and DRNC for controlling a plurality of base station, and mobile stations, the method comprising the steps of:

determining whether a base station which transmits DSCH is a primary base station or not, and number of base stations that transmits TFCI2, which is the information on the DSCH;

setting a power offset according to a result of the determination; and

transmitting the TFCI2 using the set power offset.

21. A method of claim 20, wherein the mobile station differently performs the power control based on whether or not the mobile station operates in a SSDT mode if the base station transmitting the DSCH is the primary base station.

22. A method of claim 21, wherein the power of the TFCI field is identical to that of other fields in the DPCCH of the DCH if the mobile station is in the SSDT mode.

23. A method of claim 21, wherein the power of the TFCI field is a predetermined level if the base station transmitting the DSCH is a non-primary base station.

24. A method of claim 21, wherein the power of the TFCI field is set for a non-primary base station regardless of the primary base station such that a predetermined power is transmitted when the mobile station operates in the SSdT mode.

25. A method of claim 20, wherein the power offset (TFCI PO, TFCI PO_{primary}) that has been set based on whether or not the base station which transmits the DSCH is the primary base station is added to the control frame of the user plane.

26. A method of claim 25, wherein existence of the power offset is indicated by a RADIO INTERFACE PARAMETER UPDATE Flag of the control frame of the user plane.

27. A method of claim 20, wherein the power offset (TFCI PO, TFCI PO_{primary}) that has been set based on whether or not the base station which transmits DSCH is the primary base station is added to a control message of a control plane.

28. A method of claim 20, wherein the power is controlled on the basis of the power offset differently assigned according to a ratio of the number of the base station that transmit the TFCI₂ to the number of all the base stations, when the TFCI₂ is transmitted from a plurality of base stations in an active set.

29. A method of claim 28, wherein the power offset (TFCI PO_primary, TFCI PO_non_primary) that has been set based on whether or not the base station which transmits the TFCI2 is primary is added to a control frame of a user plane.

30. A method of claim 28, wherein the existence of the power offset is indicated by a RADIO INTERFACE PARAMETER UPDATE Flag of the control frame of the user plane.

31. A method for controlling power of a TFCI field for DSCH when an associated DCH is in a situation of soft handover in a mobile communication system, the method comprising the steps of:

determining whether a base station that transmits the DSCH is primary base station or not

performing power control differently according to whether a base station which transmits the DSCH is the primary base station or not and whether a SSDT mode is operating or not.